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### Background

In preparation for the Second HELCOM Indicator Workshop a list of questions was sent out to relevant HELCOM Expert and Working Groups. The document below provides responses from the indicator leads, via JWG BIRD, for HELCOM waterbird indicators, identifying major issues and avenues for development and cooperation.

### Action requested

The Workshop is invited to take note of this information and use it as required during the discussion.

## Waterbird indicators

Response from conducting requested tasks in preparation of HELCOM indicator WS 2-2019.

Indicator leads via JWGBIRD

The current status of HELCOM waterbird indicators has been reviewed in the document “Future work on HELCOM indicators – Waterbirds” at the 1<sup>st</sup> HELCOM indicator workshop (14 May 2019, Berlin). This paper deals with the indicators covering the abundance of breeding and wintering waterbirds, respectively. Both indicators are operative and were successfully applied in HOLAS II. Optimization would refer to better coverage (complete delivery of existing data for breeding birds, inclusion of offshore species for wintering birds), better data availability (automated data flows rather than data calls), and ensuring resources for monitoring and analysis.

JWGBIRD supports solving these problems. A method to combine coastal and offshore data on wintering waterbirds has already been developed, but a better coverage of monitoring in open sea areas is needed for successful application. JWGBIRD is regularly compiling information on the status of respective monitoring activities and flags open issues and gaps. The need for better data flows is stressed. Currently, there is no established framework providing resources for regular compilations and analyses of data as well as evaluation of results to ensure annual indicator updates.

Apart from the problems mentioned above, the two abundance indicators meet the requirements of BSAP and MSFD. JWGBIRD has started to link results of the abundance indicators with possible reasons for the observed trends. It appears that many of the trends are caused by more than one factor, partly due to the large areas inhabited by most of the species. JWGBIRD aims to extend the set of waterbird indicators beyond the abundance criterion (D1C2) by covering other MSFD criteria as well:

- First, JWGBIRD supports the development of an applicable indicator for the assessment of incidental mortality from bycatch in fishing gear, with close collaboration of experts from OSPAR and HELCOM (referring to MSFD criterion D1C1). Several seabird experts of JWGBIRD participated in a joint OSPAR-HELCOM workshop (3-5 September 2019, Copenhagen), which addresses the further development of bycatch indicators.
- Second, JWGBIRD wants to highlight the need for an indicator which assesses the breeding productivity of waterbirds (MSFD criterion D1C3). The explanatory power of such an indicator is estimated to be stronger than the assessment of waterbird numbers, because population sizes (due to the demographic characteristics such as high longevity and low annual reproduction) react relatively slowly to changes in the environment. An indicator currently developed by JWGBIRD for OSPAR could be adjusted to the situation in the Baltic Sea and then be used for future HELCOM assessments (e.g. HOLAS III) and in MSFD. Currently there is not enough monitoring to allow assessments soon (e.g. HOLAS III, MSFD reporting 2024), but the indicator could be tested with existing data of the long-running observations of productivity in Gotland auks and other project data. Relevant monitoring needs to be implemented. Another proposal with respect to criterion D1C3 referred to the population structure of seabirds, e.g. the sex ratio and the proportion of juveniles or other subadult age classes in the population. Proportions of age classes (and sexes) are good indicators of the status of a given seabird population and support the interpretation of changes in abundance. Data required for an indicator assessing population structure could easily be collected in the frame of those monitoring programmes dedicated to measure population sizes.
- Third, JWGBIRD is currently developing a pressure-related indicator for the MSFD criterion D1C5 (habitat for the species) by overlaying waterbird distributions with the spatial extent of disturbance

related to human activities such as offshore wind-farming, shipping and bottom-contact fishing. This indicator is thought to become applicable for both the OSPAR and the HELCOM Regions.

The indicators already operating and those to be developed cover more than 50 waterbird species. They are suitable for an integration into comprehensive analyses of the state of the Baltic Sea. Additionally, they may be linked to a number of anthropogenic pressures, including indirect effects from eutrophication and climate change. Though single issues have already been addressed by JWGBIRD, there was so far no discussion about how the bird indicator assessments can be incorporated into a holistic approach.